



Air Force Association

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An Independent Nonprofit Aerospace Organization

*David T. "Buck" Buckwalter
Executive Vice President*

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Dear *CyberPatriot* Coach,

Thank you for serving as a *CyberPatriot* Coach – you are vital to the success of this entire initiative! In fact, without coaches' voluntary partnership, our competition model simply fails. We will never be able to support the tens of thousands of schools and millions of students who we believe are eager to participate – and we know our nation needs – without committed volunteer coaches!

We are conducting this initial proof-of-concept nationwide competition with roughly 300 teams during the 2009-10 school year. But, our goal is to prove this model can support participation by *any* number of high schools (or, eventually, *any* group of high school students). The indispensable link is a volunteer coach to serve as the responsible adult to guide students' participation. We do not need "technical experts" for each of those tens of thousands of teams – we do need dedicated volunteer coaches who care about their students' (and country's) future.

In the enclosed pages you will find a "Coaches' Agreement," with a more detailed description of the competition attached, and a "Certification Page." For teams where the designated Coach is not the AFJROTC S/ASI or CAP unit commander, there is also the requirement that the S/ASI or CAP commander acknowledge her/his approval and ultimate responsibility for the team. We ask that you return the signed certification page to your *CyberPatriot* Coordinator (CPC) via e-mail as a scanned pdf file named: "[unit designator]" (for AFJROTC units this is *state-number*, e.g., "NJ-20003"; for CAP units this is *region-state-number*, e.g., "PCR-OR-037").

Please return the certification page to your CPC not later than 8 September 2009 to "officially register" your team in *CyberPatriot II*. Thank you and your students for joining us on this exciting journey!

Sincerely,

David T. Buckwalter
Executive Vice President

Enclosures:

1. *CyberPatriot* Coaches Agreement
2. *CyberPatriot* Certification Page
3. *CyberPatriot II* Description

CYBERPATRIOT COACHES' AGREEMENT

The *CyberPatriot* Coach serves in dual roles. On one hand, the Coach is the teacher and mentor who guides the team through preparation for the competition. As importantly, the Coach is a critical member of the *CyberPatriot* management team that ensures the integrity and credibility of the competition. Coaches must serve well in both roles for *CyberPatriot II* to succeed.

As a *CyberPatriot* Coach, I agree to the following:

ACADEMIC PROGRAM

1. Deliver basic network security training to *all* assigned students/cadets as can be reasonably accommodated at the Coaches' sole discretion from the week of 21 September 2009 through 26 October 2009. The "Topic Guidelines" posted at http://www.highschoolcdc.com/docs/training/Topic_Guidelines.doc is a good resource to help with training.
2. Students/cadets should be encouraged to devote some time each week to self-study/preparation for the competition.

NOTE: This guidance may seem too flexible, but it is intended to spark creativity. As this program matures, we will have a more formal academic component integrated within the AFJROTC curriculum (we are cooperating with HQ AFJROTC on that project now). At this stage, we are purposely leaving a lot up to the Coach who appreciates the local situation and time available. After the competition we will survey all the teams for ideas and data on actual preparation to support the more formal academic program. We have noticed in previous competitions on both the high school and college levels that some of the students know more about the subject than the adults, and the players are teaching as much as learning.

COMPETITION MANAGEMENT

1. Only a single team may compete from each participating unit, and Coaches may act as coach for only one team. Coaches are responsible for selecting and designating primary and alternate competitors for the competition. Coaches will be asked to enter primary and alternate competitors on a special registration site to be supplied in early October 2009. The primary competitors for each competition round need not be the same persons, but any substitutions must come from persons registered as either a primary or an alternate.
2. Coaches agree to uphold the integrity of the competition. They must ensure that no more than five students participate in any particular round of the competition and that competitors do not receive assistance from any external source. On competition days, the coach is no longer on the side of the team, but rather is an onsite referee (White Team member) for *CyberPatriot*.

3. Coaches will ensure that all rules of the competition as described in the “Competition Team Packet” (to be distributed at least one month prior to the first competition round) are strictly followed.

COMPETITION LOGISTICS

1. Coaches agree to schedule and support all elements of the competition as described on the attached “*CyberPatriot II* Description.” This includes arranging a competition location and obtaining necessary computer equipment for qualification rounds of the competition.
2. Coaches are responsible for obtaining parental consent for students/cadets to participate in the competition.
3. Coaches agree to provide feedback to the *CyberPatriot* management team and to coordinate feedback from students/cadets.
4. Should the team be selected as one of the eight Orlando 2010 finalists, coaches agree to coordinate logistics for the trip with the *CyberPatriot* management team (all expenses except entertainment and personal expenditures will be funded). They agree to accompany their team and be responsible for guardianship during the travel and onsite. They agree to similar responsibilities should the team win the competition and be offered travel to the National Collegiate Cyber Defense Competition



CYBERPATRIOT II CERTIFICATION PAGE

TEAM: _
AFJROTC/CAP designator

I have read, understand, and agree to discharge the responsibilities described in the *CyberPatriot* Coach Agreement to the best of my abilities.

_____	_____	_____
<i>printed name</i>	<i>signature</i>	<i>date</i>
_____	_____	_____
<i>primary e-mail address</i>	<i>secondary e-mail address</i>	
_____	_____	_____
<i>primary telephone number</i>	<i>secondary telephone number</i>	

UNIT CERTIFICATION *(if required)*

I am the S/ASI (AFJROTC) or Unit Commander (CAP), and I approve the participation of my students/cadets in *CyberPatriot II*. Additionally, I have appointed the above-named individual to serve as Coach for the team. I hereby acknowledge that I retain ultimate responsibility for the conduct of the students/cadets and Team Coach during their participation in *CyberPatriot II*.

_____	_____	_____
<i>printed name</i>	<i>signature</i>	<i>date</i>
_____	_____	_____
<i>e-mail address</i>	<i>telephone number</i>	

CYBERPATRIOT II DESCRIPTION

CONDUCT OF *CYBERPATRIOT II*

1. The purpose of multiple competition rounds is to provide a scalable way:

- to include hundreds of teams,
- to maintain competitor interest for as long as possible, and
- to accurately select the best performers at each level of competition.

To accomplish this, and ensure that no team has an unfair advantage over another, the following will occur:

- all competitors will participate simultaneously in any given round,
- all competitors will have an opportunity to participate in two qualification rounds prior to elimination,
- winners of each round will be selected from the best scores, in terms of successful actions, in as quick a time frame as possible.

2. Competition Sequence

Round 0 – Comm Check (27 October 2009)

The competitors will conduct a “Comm Check” sometime during the following eight-hour window: 10AM-6PM EDT; 9AM-5PM CDT, 8AM-2PM MDT; 7AM-3PM PDT. The Comm Check is designed to mirror the actual competition procedures insofar as possible. It will be conducted as follows:

Students/Cadets will go to the Center for Infrastructure Assurance and Security (CIAS) site: <<http://www.highschoolcdc.com>> where a link will direct them to the Science Applications International Corporation (SAIC) site <<http://www.saic.com/CyberNEXS>>. There, they will download the necessary Communications Test VMware image (Test Target), which will be password protected. The Test Target password will be provided during the download process.

Once the students have the Test Target password, they should unlock and launch the Test Target, which in turn will activate the connectivity to the ScoreBot in San Diego, CA. They can tell when they have connected successfully by viewing their individual web status page which will indicate whether or not they have successfully linked to ScoreBot. When they receive this alert, they will close the Test Target, which will break the connection to ScoreBot. If for any reason the students are unable to unlock the contents or complete the connection, they should advise their assigned CPC as soon as possible after the Comm Check period.

Round 1 – Single Platform remediation (7 November 2009)

Operating Systems: Windows

Number of Targets (virtual networks): One

Time to Remediate: Six Hours (11AM-5PM EST; 10AM-4PM CST; 9AM-3PM MST; 8AM-2PM PST)

Qualifiers: Top twenty-four (24) Scores at end of six (6) hours.

Exercise Description: The students will download the Competition Target one week prior (31 October 2009). On competition day at Start of the Exercise (STARTEX), the students will be provided the password for the Competition Target. The link to the password will be located at the CIAS site at STARTEX, at which time they should unlock the Competition Target. Once unlocked, as with the Comm Check, the Target will connect to ScoreBot and provide a connection status via their individual web page. Once connected, the students have the remainder of the competition time period in which to “harden” (remove all vulnerabilities) prior to end of the Exercise (ENDEX). During that time, they can access their individual web status page for a time-delayed view of the percentage of vulnerabilities fixed. At the end of the competition time period, the top twenty-four (24) teams (highest scores) qualify to compete in the Medalist Flight in Round 3.

Round 2 – Consolation Flight (14 November 2009)

Operating Systems: Windows

Number of Targets: One

Exercise Timeframe: Six Hours (11AM-5PM EST; 10AM-4PM CST; 9AM-3PM MST; 8AM-2PM PST)

Qualifiers: Top three (3) Scores at end of six (6) hours (but only the top team may participate in Medalist Flight in Round 3).

Exercise Description: The students will download the competition Target one week prior (7 November [after conclusion of Round 1]). The competition will be conducted as in Round 1. At the end of the competition time period, the top (3) teams (highest scores) will receive Consolation Round First, Second and Third place awards. The highest score from the Consolation round will be eligible to compete in Medalist Flight Round 3.

Round 3 – Medalist Flight (21 November 2009)

Operating Systems: Windows and UNIX (Red Hat Linux)

Number of Targets: Three

Exercise Timeframe: Six Hours (11AM-5PM EST; 10AM-4PM CST; 9AM-3PM MST; 8AM-2PM PST)

Qualifiers: Top eight (8) Scores at end of six (6) hours.

Exercise Description: The students will download the competition Targets one (1) week prior (14 November [after conclusion of Round 2]). The competition will be conducted as

in Round 1. At the end of the competition period, the top eight (8) teams (highest scores) will qualify to compete in the Finals to be held in Orlando in Feb 2010.

NOTE: For the first three rounds, score will be measured against a “solution” to the respective image, with a “best time to remediate all weaknesses” or “best score attained” (if no one fixes all the flaws). This “solution” will be posted on the web to provide feedback to competitors.

Round 4 – Finalist’s Flight (19 February 2010)

Operating Systems: Windows and UNIX (Red Hat Linux)

Other devices: Firewalls, Intrusion Detection System (IDS), Switches and Routers, Network Management System and a Trouble Ticketing System.

Number of Targets: Seven

Exercise Timeframe: Seven Hours (8AM-11AM; one-hour lunch break; 12PM-4PM EST) Exercise will freeze for one-hour lunch.

Qualifiers: Top three (3) Scores at end of seven (7) hours. (but only the top team will travel to NCCDC at San Antonio, TX, in April 2009)

Exercise Description: This final round of *CyberPatriot II* will be conducted similar to *CyberPatriot I*, with the exception that all teams will compete simultaneously and there will be targets using the UNIX operating system, as well as attacks conducted against Firewalls and IDS, in addition to Windows and UNIX systems. The students will be allowed some period prior to commencement of the attacks to harden their Blue systems.

REQUIRED EQUIPMENT: NOTE: For Rounds #1 and 2, only a single computer is required; however, for those competing in Round #3, a minimum of three computers with the equipment requirements below will be needed. For Round #4, all computers will be supplied for the competition, thus no computers are needed for those teams competing in Orlando, FL.

Equipment requirements are as follows:

1 Ghz Intel compatible processor (AMD processors have had issues with VMware and are not recommended)

2 GB RAM

10 GB of free disk space

Keyboard & Mouse

Network connection (DSL or better, not dial-up)

1024x768 or higher display

(Optional) It is recommended to use a projector or large screen display to share the screen output with the rest of the team for the initial two rounds on the competition (single virtual target), but not required.

Software Requirements are as follows:

Operating System (Windows 2000 or newer, recent VMware supported Linux, or Macintosh 10.4.11 or later)

Web Browser

ZIP client capable of handling encrypted ZIP files

VMware Player (for Windows or Linux) or VMware Fusion (for Macintosh)